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**A SYSTEM AND METHOD FOR
BEAMFORMING USING A MICROPHONE ARRAY**

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ABSTRACT OF THE INVENTION

The ability to combine multiple audio signals captured from the microphones in a microphone array is frequently used in beamforming systems. Typically, beamforming involves processing the output audio signals of the microphone array in such a way as to make the microphone array act as a highly directional microphone. In other words, beamforming provides a "listening beam" which points to a particular sound source while often filtering out other sounds. A "generic beamformer," as described herein automatically designs a set of beams (i.e., beamforming) that cover a desired angular space range within a prescribed search area. Beam design is a function of microphone geometry and operational characteristics, and also of noise models of the environment around the microphone array. One advantage of the generic beamformer is that it is applicable to any microphone array geometry and microphone type.